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United States Department of Agriculture

Consorvation Sorvice

Montana Agricultural Experiment Station

Bozemen,

MONTANA WATER SUPPLY OUTLOOK

Snowpack and Streamflow Forecasts as of April 1, 1983.

UNITED STATES DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE P.O. BOX 98 BOZEWAN, WONTANA 59715 OFFICIAL RUSINISS PENALTY FOR FEIVARE UST, \$300

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The Montana Water Supply Outlook is a publication of the U.S. Soil Conservation Service. The SCS administers the Cooperative Snow Survey Program in cooperation with other federal, state and private agencies, organizations, and individuals,

The report is prepared by SCS, Snow Survey and Water Supply Forecast Staff, P.O. Box 98, Bozeman, Montana,

continues to receive good moisture from storms passing to the south. Two good storm systems out of the east created an upslope condition and deposited heavy snow in the Red Lodge area and on the east slope of the Crazy Mountains. Some areas in

northwest Montana continue to receive fairly good moisture. The remaining areas of the state continue to show deficit snowpack with central and north central Montana having the poorest snow conditions. The snowpack accumulation period is nearing its peak for the season. Many low elevations have already experienced melt during March.

Snowpack shows

The southwest corner of Montana

little improvement

No significant changes are expected in this season's snowpack unless April snowfall is extremely heavy.



Variable forecasts throughout state

Most drainages in Montana are forecast to produce below average runoff during the spring and summer months. The Milk River system, where diversions from the St. Mary's River make up the major part of the streamflow, and the inflow to Cooney Reservoir near Red Lodge are forecast near average. The southwest corner continues to get good moisture and flows are forecast to be average or above average.

a large part of central and north central Montana, Although forecasts do not indicate record low flows in this area, they are in the lowest three to five years of record. Most of the low area is in locations that can have large spring rains and some shortages can be eliminated with average or above average spring moisture. However, if present weather patterns continue, shortages will be widespread. Moderate to severe shortages of irrigation water supplies are anticipated for most drainages west of the Divide and in parts of the Yellowstone River system.

Snow survey program to be reorganized

The Soil Conservation Service is reorganizing the Snov Survey and Water Supply Forecast Program to improve service and reduce costs.

The reorganization will impact Montana operations in three major ways. One change will be in the scope of the Bozeman office responsibilities. The roorganization divides data collection and forecasting responsibilities. It also centralizes data collection responsibilities. Montana will now collect snowpack data for Montana and northern Wyoming. The addition of Wyoming will increase Montana SCS responsibility for automated SNOTEL sites from 65 to 108 and for manual courses from 250 to 310.

The second part of the reorganization affecting Montana is the centralization of forecasting responsibilities. A unit in Portland, Oregon will analyze and produce regional and statewide forecasts for the western states after October 1984. Until then, Montana will continue to produce its own water supply outlook,

The reorganization also calls for a reduction in nonessential manually read snow courses by 1986. The first step--slated for 1983-- is to study and evaluate the importance of manual courses to accurate forecasting. The plan is to reduce the number of manual snow courses or readings, or both, to a minimum level compatible with user needs. No important courses will be eliminated unless reliable alternative data is available.

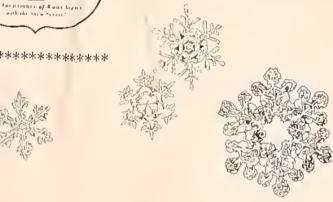
For more information on the reorganization, write to Phil Farmes, SCS Snow Survey Supervisor, P. O. Box 98, Bozeman, MT 59715, or call him at (406) 587-5271 Ext. 4270.

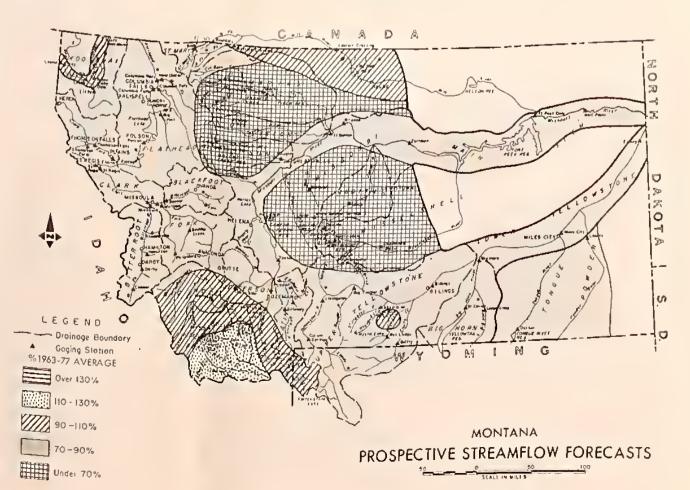


PEOSPAL - STATE - PRIVATE

COOPERATIVE SHOW SURVEYS

funithin the boils doto accepting for locating well upply for largation, dominic and municipal water repply, heliar light power generation, pavigation, mining and industry





Yellowstone River Drainage

STREAMFLOW FORECASTS		THIS TEAR		45 (45 (1)	THIS Y			ACRE FEET
BASIN, STREAM ENDER FORECAST POINT		Torasand Fertins		41 F 1 E F F F F F F F F F F F F F F F F	Thousand Acre Feer	Persont of Average	Last Year	Average
	GGIR 19	April	- Septemb	er		April	- July	
YELLOWSTONE RIVER at Corwin Springs YELLOWSTONE RIVER near Livingston BOULOER RIVER at Big Timber STILLWATER near Absarokee (1) CLARKS FORK RIVER near Belfry ROCK CREEK near Red Lodge INFLOW COONEY RESERVOIR near Boyd (2) YELLOWSTONE RIVER at Billings BIGHORN RIVER near St. Xavier (3) LITTLE BIGHORN RIVER near Hardin TONGUE RIVER near Decker YELLOWSTONE RIVER at Miles City (4) POWDER RIVER at Moorhead YELLOWSTONE RIVER near Sidney (5)		330 79 565 86 520 81 Streamflow 59.0 91 3872 83 1566 77 157 80 216 75 5642 79 185 73	2497 measurement 5171 2116 112	2,102 2,471 416 660 644 nts 118 64.5 4,682 2,034 196 288 7,142 253 7,806	1495 1690 305 480 465 discont 49.0 3300 1430 140 197 4940 170 5310	85 83 80 86 82 tinued 93 83 77 80 75 79 73	1978 by USGS 4307 1693 96.6	1,749 2,048 382 555 564 91.4 52.5 3,979 1,861 174 263 6,243 234 6,805



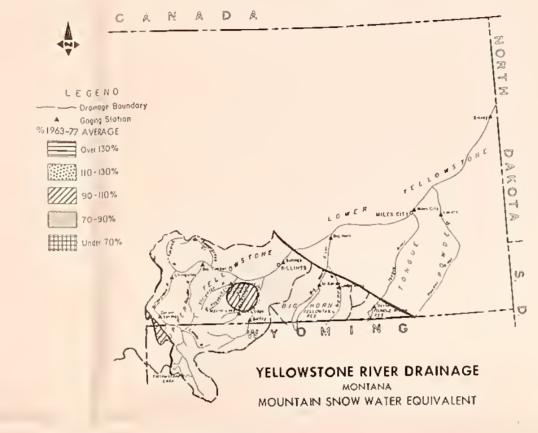
- (1) Adjusted for storage in Mystic Lake.

- (1) Adjusted for storage in Mystic Lake.
 (2) Adjusted for storage in Cooney Reservoir.
 (3) Adjusted for storage in Buffalo Bill, Boysen, Bull Lake, Pilot Butte and Bighorn Reservoirs.
 (4) Adjusted for storage in Bull Lake, Buffalo Bill, Boysen, Pilot Butte, Bighorn and Tongue River Reservoirs.
 (5) Adjusted for reservoirs shown in (4) and diversions lote the Layer Verlaystens Const. the Lover Yeslowstone Canal.

ALL FORECA: IS PREPARED IN COOPERATION WITH THE NATIONAL WEATHER SERVICE

SUMMARY OF SHOW MEASUREMENTS

RIVER BASH	Number of Courtes	MATER AS PERCENT OF			
SUB WAYERSHED	Averaged	Last Yam	Average +		
Upper Yellowstone					
ab Livingston	21	71	78		
Shields	8	84	78		
Boulder &			- 4		
Stillwater	10	76	76		
Rock Creek &			0.4		
Clark's Fork	17	86	84		
Yellowstone (ab					
Bighorn River) .	56	78	79		
Bighorn/Wyoming .	19	74	80		
Little Bighorn	3	87	71		
Bighorn (Total) .	22	76	79		
Tongue	9	83	80		
Powder	7	85	86		
Yellowstone					
(Total)	94	78	80		



	Fin-	Period
STAEAM or AREA	Saring Season	t, ate Seator
Yellowstone at		
Livingston	Fair	Fair
Shields	Fair	Poor
Roulder	Fair	Fair
Sweetgrass - Big		
Timber	Fair	Poor
Stillwater	Fair	Fair
Rock Creek	Fair	Fair
Clark's Fork	Fair	Fair
Yellowstone above		
Bighorn	Fair	Fair

Lower Yellowstone ... Fair Fair

Fair Poor

Fair Poor

Little Bighorn

Snowpack changes little

During the last month, two major upslope storms approached the Yellowstone headwaters from the east and deposited large amounts of snov in the Red Lodge area. Lesser amounts fell on the east side of the Crazy

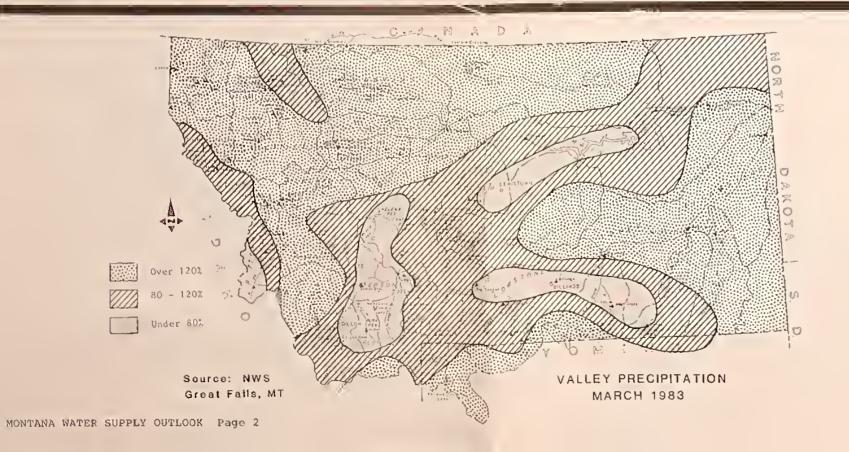
The area around Red Lodge now has a near to above average snowpack. Some snowfall has occurred in other areas but most locations still have only 75 to 85 percent of average snowpack.

Some melt has occurred in lower elevations with most valley areas and south-facing foothills and slopes

Forecasts remain low

Forecasts for spring and summer runoff are generally a little lower than those issued last month except for the Red Lodge Creek Drainage.

Streamflows will be adequate for most early season irrigation but river flows will drop sooner than usual with shortages of irrigation water supplies expected by early July and continuing through the irrigation season. Shortages will be most noticeable on smaller heavily used streams such as the Clark's Fork River and Rock Creek.



Missouri River & Hudson Bay Drainages

STREAMFLOW FORECASTS		THIS YEAR		10003A00 KW 111		THIS TEAM		PALT RECORD	
JINCOM TO THE STATE OF THE STAT		FORECAST		F CAT CAST		THURSAYE ACRE FOR T			
BASIN, STREAM wor'D FORECAST POINT	Shousand Note Rees	6 4,4 3		4 - 34 -	1 2 9 2 2 2	Arenge	CSP LEE	714.184	
PERIOC		April -	Septembe	1	[April -	July		
	142	129	150	110	135	131	135	103	
RED ROCK RIVER near Monida (1)	191	112	228	171	165	111	194	148	
BEAVERHEAD RIVER near Grant (2)	237	105		226	208	106		196	
BEAVERHEAD RIVER at Barratts (2)	117	111		105	100	112		0.18	
RUBY RIVER near Alder	215	90		792	660	90		730	
BIG NOLE RIVER near Melrose	Chroamf	low men:	surements	103	discont	inned		96.7	
BOULDER RIVER near Boulder	24.5	114		21.5	22.0	115		19.2	
WILLOW CREEK near Harrison	542	104	584	523	430	105	456	409	
MADISON RIVER near Gravling (3)	0.50	103	1024	892	732	104	797	706	
MADISON RIVER near McAllister (4)	107	87	592	572	425	87	501	488	
GALLATIN RIVER near Gateway		78		30,3	20.4	78		26.2	
INFLOW HIDDLE CREEK RESERVOIR near Bozeman (5)	23.0	80		47.4	33.0	80		41.1	
MYALITE CREEK near Bozeman (6)	21.2	78		649	435	78		557	
CALLATIN RIVER at Logan	202	89	3470	2,671	2090	90	3072	2,330	
MISSOURI RIVER at Toston (7)	2002	64	24.5	22.8	12.5	63	21.0	19.8	
CHEEP CREEK near White Sulpher Springs	14.5	61	596	580	318	60	544	529	
CIN RIVER at Gibson Dam (8)	222	61		146	80	60		134	
REIT CREEK near Monarch	07.0	81		4,148	2940	81		3,640	
MISSOURI RIVER at Fort Benton (9)	-00	69		259	172	70		244	
TWO MEDICINE CREEK near Browning (10)	100	68		133	78.0	67		116	
BANGER CREEK near Browning.	220	64	521	577	340	64	494	532	
MADIAS DIVER near Shelby		83		4,793	3515	83		4,238	
ALTOCATED TOTAL OF VIEWELLE (11)		85		5,214	3900	85		4,58	
WICCOURT PINER near Landusky [1]		56		6.4	3.0	55		5.	
MADER FORK MISSELSHELL RIVER near DelDine		54		61.5	31.5	55		57.	
COUTH TORK MUSSELSHELL RIVER above Martinsdate		84		4,929		84		4,38	
WINDOWS DIVER holow Fort Peck Dam [11]	, -, 2.2.5	105		250		,		. ,	
MILK RIVER at Eastern Crossing"	. 263			83					
MILK RIVER at Eastern Crossing (12)*		98 83		13,450		83		12,23	
INFLOW LAKE SAKAKAWEA, ND (11)	. 11165	0.5		.5,430	111100	0.5		,	
CACCATCHEUM DIVER RASIN		0.0	133	132	102	89	117	11	
SWIFTCURRENT CREEK at Sherburne (13)	. 118	89	100	498				42	
ST. MARY'S RIVER near Babb (13)	. 445	89		430) / ()	11.7			
ST. MAKY S RIVER Heat babb (13)									





*March-September forecast

- (1) Adjusted for storage in Lina
- Reservoir.
 (2) Adjusted for storage in Lima and
- Clark Canyon Reservoirs.
 (3) Adjusted for storage in Hebgen
- Lake.

 (4) Adjusted for storage in Hebgen
 Lake and Ennls Lake.

 (5) Sum of West Fork Hyalite Creek and
 East Fork Hyalite Creek above the
- Reservoir.

 (6) Adjusted for storage in Hiddle Creek Reservoir.

 (7) Adjusted for storage in Lima, Nebgen, Ennis & Clark Canyon Reservairs.
- (8) Adjusted for storage in Gibson
- (9) Adjusted for storage in Lima, (9) Adjusted for storage in Lina,
 Clark Canyon, Hebgen, Ennis, GibBon, Plankun, Willow Creek &
 Conyon Ferry Reservoirs.
 (10) Adjusted for storage in Two Medicine Reservoir & diversions in
 Two Medicine Const.
- (11) Adjusted for all upstream
- reservoirs.
 (12) Flow at Eastern Crossing minus St. Mary's Conal.
 (13) Adjusted for storage in Lake Sherburne.
- ALL FORECASTS PREPARED IN COOPERATION WITH THE NATIONAL WEATHER SERVICE

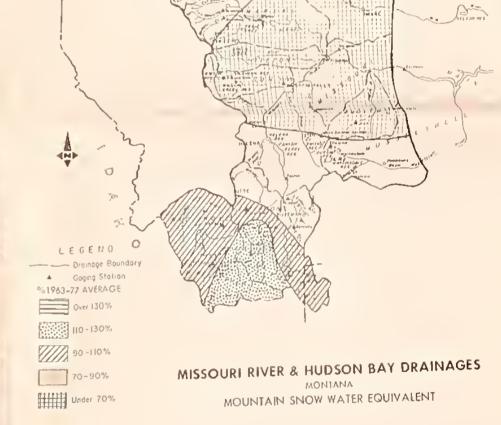


Snowfall improved in some areas during March but snow depths are still below average in many drainages.

SUMMARY OF SHOW MEASUREMENTS

SUPPLY OUTLOOK celler	Flue Pa	100
STREAM OF AREA	Spring Season	tiate Sasson
verhead	Exc	Avg
	Exc	Avg
llo1e	Avg	Avg
der	Fair	Poor
erson	Avg	Fair
son	Avg	Avg
atill		Fatr
·Side Missouri	Fair	Poor
h-Belt	Fair	Poor
	Poor	Poor
Π	Poor	l'oor
as	, Fair	Poor
ith	. Poor	Poor
selshell	. Fair	Poor
(. Avg	Avg
r l'aws	. Fair	Fair
Mary's	. Fair	Fair

RIVER BASIN	Course of	MATER AS	
SUB-WATERS-EO	Avgraged	Subi Year	ALMARA
Beaverhead	25	100	117
Ruby	12	103	114
Big Mole	22	80	96
Bonider	13	69	83
Jefferson	72	89	105
Hadison	31	88	103
Gallatin	23	83	88
		87	101
Missouri Headwate		07	
West-side Missour		6.0	75
(Toston-Cacade)	9	65	74
Smith-BeIt-Arrow	8	72	74
Missouri Main-ste	m 17	69	64
Teton & Sun	10	53	70
Marias	4	59	
Marias-Teton-Sun	14	55	67
Judith-Musselshel	1 17	74	72
Milk	***	48	53
Bear Paws	_	28	25
Missouri (Total)	/	82	93
111220111 (10191)	4.7		
2 2 4 5 -			
Saskatchewan	>	80	85
St. Mary's	. 3	00	
Bow River in		84	84
Alberta	. 15	Dн	



Snowpack varies

Above average snowfall continues in the southwestern portion of the drainage and remains below average in the drainages of central Montana. the Easter weekend snowstorm dropped 1 to 2 inches of water equivalent in and around Bozeman. Other southwestern mountain areas received from one-half to one inch of moisture from this storm.

Meadwaters of the Red Pock, Puby and parts of the Madison River drainages have well above average snowpack. Snow in the remaining areas of the Missouri River headwaters is generally near average. Conditions deteriorate on downstream tributaries where the water stored in the snowpack is only one-half to two-thirds of average.

Conditions improve in the extreme northwest where the St. Mary's River headwaters in Glacier National Park have snowpack nearer to but still below average. Post low elevations showed some melt during March.

Southwest forecasts improve

Forecasts of spring and summer runoff have been increased on most uthwest streams. Above average runoff is expected from the Red Rock, Beaverhead and Ruby Rivers, Adjacent streams are predicted to have flows near to a little below average. Downstream tributaries are forecast to have below average runoff with some central Montana drainages expected to produce only one-half their normal runoff.

Irrigation water supply shortages will be common by late June in all areas of central Montana not having stored water.

Some late season irrigation water shortages may occur on the Gallatin arrl Big Hole Rivers but adequate irrigation water supplies should be available into mid-July.

MONTANA WATER SUPPLY OUTLOOK Page 3

SNOW SURVEY DATA

SHOW -	April 1, 1983			THIS YEAR		PAST R	
	BRAINAGE BASIN MISTON SHOW COURSE		Doie of Survey	Snow Onoth	Weier Content	Werte Conit	
	IJAHE	Elps mark	of Survey	(Inches)	(Inches)	Larayan	Avelega
		8800	3/31	66	20.8	25.5	22.5
	ICE LAKE	64.80	3/27	3.3	11.1	17.0	14.4
AMBROSE		7350	3/29	4.2	10.8	14.2	14.4
ARCH FA		4820	3/30	1 4	4.4	8.2	_
ASHLEY		4000	3/30	1.3	4.3	6.7	-
ASHLEY		6900	4/04	7.9	29.6	46.4	41.7
OADGER	PASS	6900	4/01	5 P	26.1	41.8	-
	PASS PILLOW	7500	3/30	3.8	10.0	13.3	14.6
BALD RI		5600	3/28	59	24.0	28.4	25.8
	NIATRUOM O.	5600	3/28	SP	20.6	26.9	55.5
	D MOUNTAIN PILLOW	5500	4/01	116	45.5	54.5	50.3
	REEK	4600	3/31	9.5	37.6	39.6	38.8
	IDHAY	3800	4/01	9	3.6	9.2	9.8
	RAIL	8250	3/25	5.4	16.4	15.9	-
BARKER		82 50	4/01	ŠΡ	17.9	17.7	_
BARKER		71.80	3/28	4.6	11.4	1T.8	8.4
BASIN C		7180	4/01	SP	9.4	11.0	-
	REEK PILLOW	\$150	3/31	5.0	7.3	10.2	11.5
BASSOO		8850	3/31	40	8.6	12.5	-
DEAGLE		8850	4/01	5.8	9.0	12.7	_
	SPAINGS PILLOW	8150	3/28	69	21.6	25.4	23.3
BEAR BA			3/31	8	2.3	8.4	7.3
	W SKI AREA	5200 5900	4/04	4.9	15.8	30.2	25.8
HEAVER		7300	4/04	30	8.0	10.6	8.4
BERRY M		5100	3/30	12	3.6		8.3
OIG COU		6750	4/04	126	49.3	51.6	47.6
OIG CRE	EK	7700	4/01	5.7	15.6	21.2	17.3
BIG SKY		6350	3/28	29	10.2	12.6	10.0
	MEADOW	7150	3/28	5.5	16.6	19,3	24.1
BIG SNO		7950	3/30	124	48.4	57.4	44.1
ALACK B			3/30	5 P	42.1	50.1	40.0
	EAR PILLOW	7950		51		18.1	40.0
BLACK M		7750	3/28		14.5		15 6
BLACK P		7100	3/30	36	10.6 11.0	T8.6 19.6	15.5
	INE PILLOW	7100	3/30	S P			16.0
BLOODY		7600	3/31	47	14.0	18.2	14.8
	DICK PILLOW	7600	3/31	SP	12.8	16.5	
BLUE LA		5900	4/04	52	18.9	33.6	28.0
80TS S0		8000	3/29	36	8.3	6.8	9.1
	MOUNTAIN	7950	3/28	60	19.0	21.3	20.7
	MOUNTAIN PILLOW	7950	4/01	5 P	8.55	25.3	1/ 1
BOX CVN.		6670	4/01	2.7	9.0	12.9	14.2
	YON PILLOW	6670	4/01	SP	7.1	12.7	-
BOXELDER		5100	3/31	0	.0	-	8.6
BRANHAM		8850	3/28	100	33.2	35.6	31.9
	00 WL	7250	3/31	64	22.5	28.2	30.2
BRIDGER	BOWL PILLOW	7250	3/31	5 P	22.1	26.4	29.5
WOTZINE	CREEK	3900	3/28	13	5.7	13.0	12.6
RUSH CA	REEK TIMBER	5000	4/01	5.8	8.8	11.0	10.6
JULL MOL	INTAIN	6600	3/31	21	6.4	8.'6	6.7
CABIN CE		5200	3/27	9	2.4	7.4	7.2
CALL ROA	10	8050	3/30	5.0	14.6	13.1	13.1
CALVERT	CREEK	6450	4/04	4.1	11.8	15.4	13.2
	CREEK PILLOW	6450	4/01	\$ P	8.9	12.4	9.8

SHOW April 1, 1983			THIS YEAR		PAST R	ECORO
DRAINAGE BASIN md/m SNOW COURSE		Onto	Snow Ozerth	Weler Content	Walls Contr	ni (Inchi și
NAME	Elevation	al Survey	(Inches)	(Incher)	Less Year	Acetego
	5440	7.130		30.6	/ 1 0	70.2
FISHER CREEK PILLOW	9100	3/29	SP	28.5	41.8	38.7
FIVE-BULL	5700	4/01	1 1	3.9	9.7	7.6
FLATTOP MOUNTAIN PILLOW	6300	4/01	SP	45.6	47.8	51.6
FLEECER RIDGE	7500	3/31	4.2	12.1	14.6	12.2
FOOLHEN	8280	3/31	59	17.4	20.6	19.1
FOREST LAKE	6400	3/29	3 3	9.8	11.9	12.3
FOUR MILE	6900	3/31	3.5	10.9	9.8	9.3
FOURTH OF JULY	3450	4/01	1.3	4.8	7.3	-
FREIGHT CREEK	6000	4/04	3.2	10.1	21.5	17.2
FRIDAY HILL	4620	4/01	5.6	22.4	24.6	-
FROHNER MEADOWS	6480	3/28	2.4	6.8	11.2	9.2
FROHNER MEADOWS PILLOW	6480	3/28	5 P	7.3	11.1	10.0
GARVER CREEK	4250	3/28	29	11.2	12.4	12.0
GARVER CREEK PILLOW	4250	3/28	SP	10.6	11.6	10.8
GIBBONS PASS	7100	3/28	66	24.8	30.9	24.8
GOAT MOUNTAIN	7000	3/28	5.5	6.3	13.7	11.6
	7200	3/28	51	14.4	19.4	17.7
GOLD CREEK LAKE	8100	3/31	5.8	18.0	22.8	18.9
GOLD STONE	7000	3/29	21	5.8	6.7	6.4
GRASSHOPPER		3/28	44	14.8	18.6	19.2
GRAVE CREEK	4300					
GRAVE CREEK PILLOW	4300	3/28	SP	16.6	17.9	18.7
GRIFFIN CREEK DIVIDE	5150	3/31	30	10.0	14.0	12.2
GRIZZLY PEAK	8640	3/28	69	19.1	14.1	17.9
GUNSIGHT LAKE	6300	4/04	87	32.2	47.9	42.7
HAND CREEK	5030	4/01	4.0	11.8	15.6	14.1
HAND CREEK PILLOW	5030	4/01	\$ P	8.1	18.8	-
HAWKINS LAKE	64.50	3/28	79	32.1	36.0	34.2
HAWKINS LAKE PILLOW	6450	3/28	5 P	28.1	31.7	31.6
HAYMAKER	8050	3/30	4.2	11.0	14.4	13.8
HEART LAKE TRAIL	4800	3/29	3.8	15.4	24.2	8.85
HEBGEN DAM	6550	3/29	4.6	15.5	16.4	12.5
HELL ROARING DIVIDE	5770	3/31	7.8	29.3	34.2	34.4
HERRIG JUNCTION	4850	3/30	7.0	25.3	33.2	-
HIGHWOOD DIVIDE	5650	3/30	2.5	7.0	-	10.6
HIGHWOOD STATION	4600	4/05	3	0.7	-	4.6
HOLBROOK	4530	4/01	1.5	4.8	11.3	10.7
HOOD MEADOW	6600	3/29	3.4	8.9	12.4	12.4
HOODOO BASIN	6000	3/29	109	46.2	65.0	53.6
HOODOO BASIN PILLOW	6000	4/01	SP	41.9	54.3	51.9
HOODOO CREEK	5900	3/29	100	41.4	58.5	49.9
INDEPENDENCE	7850	4/01	4.7	15.7	19.8	20.3
INTERGAARD	6450	3/31	23	6.4	11.6	9.4
	7500	3/31	5.6	7.8	8.6	6.5
JACK (REEK	7200	3/30	39	10.8	15.7	10.5
JAHNKE LAKE TRAIL			18	4.8	10.0	7.1
JOHNSON PARK	6450	3/28				
KEELER CREEK	3300	3/28	17	6.6	13.3	11.5
KINGS HILL	7500	3/31	36	10.8	15.3	15.8
KISHENEHN	3890	3/29	1.8	5.1	10.0	8.2
KIWANIS CAMP	3720	3/31	0	• 0	• 0	1.6
KRAFT CREEK PILLOW	4750	4/01	SP	9.8	17.1	
LAKE CREEK	6100	3/30	3.3	10.5	9.5	10.3
LAKEVIEW CANYON	6930	3/31	61	50.5	13.2	13.8
LAKEVIEW RIDGE	7400	3/31	5.7	19.2	13.4	12.1
LAKEVIEW RIDGE PILLOW	7400	4/01	SP	22.0	13.9	-
LEMHI PASS	74.80	3/29	2.7	7.8	10.4	9.9
LEMHI RIDGE	8100	3/31	37	9.3	12.8	10.9
LEMHI RIDGE PILLOW	8100	3/30	SP	9.1	14.1	11.0
LICK CREEK	6860	3/29	3.5	9.2	12.2	11.3
				•	2.50.3	1 1117

NOW April 1, 1983			THIS YEAR		PAST R	
DRAINAGE BASIN and or SNOW COURSE		Dete at Survey	Sne≠ Droth (Inchee)	Water Content United (Welli Conte	
NAME	Elevation	61 301107	(timbree)	tunenti	Lett Year	Averege
AMP MISERY	6400	3/29	118	49.4	50.3	52.0
AMP SENIA	7890	3/29	3.1	7.4	3.2	7.7
ARROT BASIN	9000	3/28	109	37.1	50.6	39.5
ARROT BASIN PILLOW	9000	3/58	SP	31.3	33.3	29.8
ARTER CREEK	7400	3/30	2.7	7.8	6.9	6.6
ASHE CREEK PILLOW	7800	4 / 0 1	SP	10.0	12.4	
EDAR GROVE	4100	3/28	24	9.4	12.8	14.2
HESSMAN RESERVOIR	6200	3/28	1.5	3.4	4.8	4.2
HICKEN CREEK	4060	3/30	2.7	T1.1	15.8	-
LOVER MEADOW	8600	3/30	6.5	50.0	19.0	19.7
LOVER MEADOW PILLOW	8600	4/01	S P	13.1	21.7	-
COLÉ CRÉEK	7850	3/28	7.4	9.02	16.0	19.6
COLE CREEK PILLOW	7850	3/28	SP	18.3	15.3	19.4
COLLEY CREEK	6300	3/29	19	5.8	10.6	9.8
COMBINATION	5600	3/30	1.4	4.8	8.8	6.5
COMBINATION PILLOW	5600	3/30	\$ P	4.5	9.4	6.6
COOKE STATION	8150	3/29	5.5	17.4	23.6	21.3
COPPER BOTTOM	5200	4701	1.5	5.4	16.7	11.9
COPPER BOTTOM PILLOW	5200	4/01	2 6	6.5	14.2	14.8
COPPER CAMP	6950	4/01	6.6	24.5	40.8	34.2
COPPER CAMP PILLOW	6950	4/01	5 P	23.5	43.0	42.8
COPPER CREEK	5700	4/01	3.0	10.9	1.55	16.1
COPPER LAKE CREEK	6100	4/01	5.7	20.7	31.5	26.3
COPPER MOUNTAIN	7700	3/30	4.5	11.2	16.4	12.2
COTTONWOOD CREEK	6400	3/28	2.7	7.4	10.3	9.0
COYOTE HILL	4700	3/29	16	5.2	11.8	10.7
CREVICE MOUNTAIN	8400	3/30	3.7	9.0	14.9	11.5
CPYSTAL LAKE	6100	3/28	33	9.4	13.6	15.7
CRYSTAL LAKE PILLOW	6100	4/01	Ş P	10.2	12.3	
DAD CREEK LAKE	8400	3/31	5.5	13.6	17.5	15.8
DAISY PEAK	7600	3/28	37	9.2	14.2	12.0
DALY CREEK	5780	3/27	31	10.6	16.4	13.1
DALY CREEK PILLOW	57.80	4/01	SP	13.8	18.3	-
DARKHORSE LAKE	8600	3/31	74	24.6	31.6	30.1
DARKHORSE LAKE PILLOW	8600	4/01	SP	19.4	30.2	33.4
DAVIS CREEK DEADMAN CREEK	5400 6450	3/28	64	26.8	30.2	27.1
DEADMAN CREEK PILLOW	6450	3/31	30 S P	9.4	11.8	12.6
DESERT MOUNTAIN	5600	3/28	40	6.2	12.0	11.1
DEVILS SLIDE	8100	3/20	7.0	12.2	17.4 25.3	17.3
DISCOVERY BASIN	7050	3/29	33	9.0		24.6
DIVIDE	7900	3/30	53	15.5	13.8	11.9
DIVIDE PILLOW	7900	3/30	5 P	14.5		12.2
DIX HILL	64 00	3/27	50	7.3	17.2	12.8
EAGLE CREEK	7000	3/29	36	11.4	15.6	10.4
EAST BOULDER 5	9250		81	26.51	36.5	16.1 33.6
EAST FORK R.S.	5400	3/28	9	2.6	8.6	6.7
3KIK OGAPOG 13	7800	3/28	66	19.8	26.0	23.8
FIORN SPRINGS	7800	3/29	3.6	9.0	11.5	10.1
ELK PEAK	8000	3/29	53	14.3		
SHERY CREEK	4350	275	41	12.4	18.4	18.7
EMERY CREEK PILLON	4350	3/28	\$ P	16.8	17.7	17.1
FATTY CREEK	5500	4/04	71	25.7	18.6	25 4
FISH CREEK	8000	3/28	5.2	14.5	29.0	25.1
TITL CUECA	0000	3150	10	14.7	14.4	9.8

OW April 1, 1983	(THIS YEAR	<u> </u>	PAST RE	
ORAINACE BASIN end/or SNOW COURSE		Qere uf Sureey	Snew Qooth (Inches)	Willer Content	Lett VI as	Avenage
NAME	Elevation				Cell (10)	
ICK CREEK PILLOW	6860	3/29	SP	9.5	11.8	11.1
LITTLE PARK	7400	3/28	5.5	16.1	19.7	17.0
OGAN CREEK	4300	4/01	1.8	5.2	9.1	7.
ONE MOUNTAIN	8880	3/31	7.4	25.8	29.0	24.1
OST HORSE	5940	4/01	7.7	28.8	45.2	35.
OST SOUL	4800	3/28	4.0	15.0	20.4	16.
OWER TWIN	7900	3/31	74	25.1	25.6	22.
OWER TWIN PILLOW	7900	4/01	SP	24.4	22.2	_
UBRECHT FLUME	4800	4/04	0	.0	8.5	6.
UBRECHT FLUME PILLOW	4800	4/01	SP	1.0	9.3	6.
	5450	4/04	16	5.0	10.8	7.
		4/04	0	.0	3.8	2.
	4650		1	. 4	4.6	2.
UBRECHT FOREST # 6	4040	4/04			7.8	3.
USRECHT HYDROPLOT	4200	4/04	0	.0		23.
MADISON PLATEAU	7750	3/30	7.9	27.3	29.1	
TADISON PLATEAU PILLOW	7750	3/30	SP	26.9	30.4	24.
IANY GLACIER	4960	3/30	4.8	18.5	24.5	-
MANY GLACIER PILLOW	4960	4/01	SP	15.6	8.55	1.0
MARIAS PASS	5250	4/02	4.5	16.4	25.4	19.
MAYNARD CREEK	6210	3/31	4.1	12.7	14.5	14.
MAYNARD CREEK PILLOW	6210	3/31	SP	10.4	10.0	12.
AIDDLE MILL CREEK	7850	3/28	6.5	21.5	18.4	18.
TILL CREEK	7500	3/29	36	9.0	15.4	14.
MINERAL CREEK	4000	3/29	3.8	15.4	22.4	19.
MONUMENT PEAK	8800	4/01	7.1	23.4	30.9	29.
MONUMENT PEAK PILLOW	8800	4/01	\$ P	17.0	25.0	-
MOULTON RESERVOIR	6850	3/24	9.5	7.1	9.2	-
MOUNT LOCKHART	6400	3/30	5.7	18.4	0.85	23.
MOUNT LOCKHART PILLOW	6400	3/30	SΡ	16.3	28.4	21.
JUOD LAKE	7650	4/04	6.5	21.9	27.0	22.
MULE CREEK	8300	3/31	5.2	14.5	20.0	-
MULE CREEK PILLOW	8350	4/01	SP	13.3	18.8	-
VEVADA CREEK	6480	4/01	3.8	12.8	19.2	-
NEVADA CREEK PILLOW	6480	4/01	SP	11.6	17.5	-
NEW WORLD	6700	3/30	4.7	14.0	16.0	17.
VENTON MOUNTAIN	5600	4/01	101	39.2	42.0	_
	5650	3/31	39	12.8	8.05	16.
The second second second second	5650	3/31	SP	13.0	21.6	
	6500	3/30	5.5			7.
NEZ PERCE CREEK				6.4	10.3	
NEZ PERCE PASS	6570	3/31	4.2	13.7	24.1	19.
NOISY BASIN	6040	3/29	117	47.3	44.1	48.
NOISY BASIN PILLOW	6040	4/01	SP	43.7	41.3	٤1.
NORTH FK. ELK CREEK	6250	4/04	3 9	11.4	18.8	13.
WORTH FK. ELK CREEK PILLOW		4/01	SP	11.1	21.0	14.
MORTH FORK JOEKO	6330					
NORTH MEADOW	7500	3/31	4.1	11.2	9.2	9.
NORTHEAST ENTRANCE	7400	4/03	29	8.4		
NORTHEAST ENTRANCE PILLOW	7400	4/01	S P	8.5	10.9	9.
NOTCH	8500	3/30	7.1	9.55	18.4	17,
OPHIR PARK	7150	3/27	4.5	15.6	21.4	21.
PALISADE CREEK	8250	4/01	8.3	30.0	39.2	33,
DETERSON MEADOWS	7200	3/31	3.5	9.3	13.2	11,
PETERSON MEADOWS PILLOW	7200	3/31	SP	9.7	12.8	12.
PICKET PIN D	9450	3/30	67	72.NA	30.0	28.

SNOW SURVEY DATA Continued

NAME (Implies) ch Soliday (Inches) (Inches) (Inches) (Inches) (Inches) Average PICKET PIN MIDDLE 8100 3/30 28 7.2 13.1 13	. 3
	-1
PICKET PIN UPPER 8100 3/30 64 19.4 20.2 23	-
PICKFOOT CREEK 6650 3/28 31 9.7 11.8	
PICKFOOT CREEK PILLOW 6650 4/01 SP 13.1 12.8	-
PIKE CREEK 5930 3/29 58 22.2 33.9	-
PIKE CREEK PILLOW 5930 3/29 SP 24.0 36.6	-
PIPESTONE PASS 7200 3/30 25 6.2 8.4	. 2
PLACER BASIN F 8830 3/30 63 19.0A 26.5 2	4
PLACER GASIN PILLOW 8830 4/01 SP 14.5 17.6	-
POORMAN CREEK 5100 3/28 79 34.5 44.2 3	1.0
POORMAN CREEK PILLOW 5100 3/28 SP 27.9 41.2 3	. 3
PORCUPINE 6500 3/50 24 6.0 8.0	3.8
PORCUPING PILLOW 6500 3/30 SP 5.5 8.1	-
POTOMAGETON PARK 7150 3/29 48 16.4 18.8 1	5.9
RED MOUNTAIN 6000 3/31 59 21.0 22.3 2).6
RED TOP \$260 4/01 86 34.2 35.0	-
ROCK CREEK 5600 3/28 29 8.2 6.8 1	1.0
ROCK CREEK MEADOWS 8160 3/25 67 20.4 28.2 2	4.8
ROCKER PEAK 8000 4/06 57 13.4 19.0 1	5.5
ROCKER PEAK PILLOW 8000 4/01 SP 14.0 19.0 1	5.2
ROCKY BOY 4700 3/31 0 .0 4.6	8.4
ROCKY BOY PILLOW 4700 3/31 SP 3.3 6.7	5.0
	5.1
SADDLE MOUNTAIN 7940 3/28 70 25.6 33.0 2	7.3
SADDLE MOUNTAIN PILLOW 7940 3/28 SP 23.5 34.9 2	8.6
SAND BASIN LOWER 6480 4/06 38 11.6 15.7	-
SENTINEL CREEK 8300 3/29 78 26.4 31.0 2	5.6
SHOWER FALLS 8100 3/29 71 22.6 26.7 2	6.7
SHOWER FALLS PILLOW 8100 4/01 SP 23.3 26.7 ?	6.4
SILVER RUN 6630 3729 21 5.5 3.3	5.8
SILVER RUN PILLOW 6630 3/29 SP 5.4 3.4	-
SKALKAHO SUMMIT 7260 3/26 60 21.2 33.4 2	8.4
SKALKAHO SUMMIT PILLOW 7260 4/01 SP 22.8 34.4	
SKYLARK TRAIL PILLOW 6200 4/01 SP 29.6 44.1	
SLAG-A-MELT LAKE 8750 3/31 85 30.2 32.9 2	8.7
SLIDE ROCK MOUNTAIN 7100 3/29 41 12.8 20.1 1	9.0
SMUGGLER MINE 6960 3/28 49 13.6 12.4 1	1.0
	6.7
SOUTH FORK SHIELDS PILLOW 8100 3/30 SP 15.1 19.0	_
	6.3
	3.7
	3.7
	2.4
	4.7
	6.8
	1.5
	5.1
STRYKER BASTN 6180 3/30 90 31.4 42.5	_
STUART MILL 6500 3/31 21 6.2 10.2	7.9
	4.6
SUCKER CREEK 5960 3/31 0 .0 .0	0.5

SUCKER CREEK	5960	3/31	0	.0	.0	0.5
SNOW April 1, 1983			THIS TEAR		PASTI	RECORO
DRAILIAGE BASIN and as SNOW COURSE		Ooto	Sno- Orach	Weller Content	Welet Cont	ent (Inches)
NAME	Elevation	al Serve	{Inchist	(fnchas)	Last Yaw	Anerego
TAYLOR ROAD	4080	3/31	0	. 0	. 0	3.1
TEN MILE LOVER	6600	3/29	5.5	5.7	9.3	8.2
TEN MILE MIDDLE	6800	3/29	3.7	9.2	14.6	13.2
TEN MILE UPPER	8000	3/29	39	10.4	16.8	15.4
TEPEE CREEK	8000	3/30	6.7	20.2	19.6	16.7
TEPEE CREEK PILLOW	8000	3/30	SP	17.1	18.2	13.9
TIMBERLINE CREEK	8850	3/29	5.8	15.2	13.0	16.6
TRAIL CREEK	70.90	3/31	2.4	6.6	10.2	9.5
TRINKUS LAKE	6100	4/04	111	43.0	51.0	46.3
IRUMAN CREEK	4060	3/30	0	. 0	5.0	-
TV MOUNTALN	6800	4/01	5.3	18.2	23.0	20.7
TWELVEMILE CREEK	5600	4/01	4.3	16.7	29.2	23.4
TWELVEMILE CREEK PILLOW	5600	4/01	SP	15.2	25.2	20.7
TWENTY-ONE MILE	7150	3/30	5.9	17.9	18.4	19.6
TWIN CREEKS	3580	4/04	14	5.5	13.0	12.1
TWIN LAKES	6510	4/01	9.5	36.3	54.3	44.9
THIN LAKES PILLOW	6510	4/01	SP	35.2	53.5	43.5
UPPER HOLLAND LAKE	6200	4/01	8.0	26.9	39.9	38.6
WALDRON	5600	3/30	24	7.2	15.2	11.1
WALDRON PILLOW	5600	4/01	SP	7.9	14.7	10.4
WARM SPRINGS PILLOW	7800	4/01	SP	19.0	26.4	
WEASEL DIVIDE	5450	3/28	90	36.1	38.5	37.2
WEST ROSEBUD	7500	3/31	33	8.3	9.7	13.0
WEST YELLOWSTONE	6700	3/30	4.1	12.5	12.1	12.8
WEST YELLOWSTONE PILLOW	6700	3/30	SP	11.0	11.2	9.4
WHISKEY CREEK	6800	3/30	67	24.2	27.2	21.8
WHISKEY CREEK PILLOW	6800	3/30	SP	18.5	55.0	18.4
WHITE MILL	8700	3/29	7.1	24.8	33.4	29.7
WHITE MILL PILLOW	8700	3/29	SP	21.9	29.7	27.3
WHITE PINE RIDGE	8850	3/31	3.0	7.1	5.4	5.9
WILLOW CREEK	6500	3/28	3.4	8.2	8.2	10.8
WOOD CREEK	5960	4/01	2.8	9.8	15.6	-
WOOD CREEK PILLOW	5960	4 / 0 1	SP	7.9	15.2	**
WRONG CRFEK	5700	3/27	2.6	9.8	17.6	15.4
WRONG RIDGE	6800	3/27	3.9	13.6	24.4	21.5
MAON I MG						
BALD MOUNTAIN (WY)	9380	3/29	6.7	19.3	21.6	25.2
BALD MOUNTAIN PILLOW (WY)	9380	3/29	5 P	16.7	20.1	
BEARTOOTH LAKE PILLOW (WY)	9270	3/31	S P	17.9	-	
BURGESS R.S. (WY)	7880	3/29	32	6.6	7.4	9.3
BURGESS R.S. PILLOW (NY)	7880	3/29	SP	11.5	8.0	
CANYON PILLOW (WY)	7940	4/01	SP	12.0	22.5	16.9
EAST ENTRANCE (WY)	6960	3/29	3.3	9.5	15.5	9.0
EVENING STAR PILLOW (WY)	9200	3/29	SP	16.1	-	*
FIVE SPRINGS FALLS (WY)	7620	3/31	1.8	4.6	6.0	8.4
LAKE CAMP (JY)	7780	3/29	3.7	8.8	12.3	10.1
LUPINE CREEK (WY)	7380	4 / 0 1	36	10.1	9.3	11-1
NORRIS BASIV (WY)	7500	4/02	3.2	8.4	13.5	11.8
OLD FAITHFUL (WY)	7400	4/01	5.2	-16.4		*
PARKERS PEAK PILLOW (WY)	9400	3/31	SP	21.3	-	•
SYLVAN LAKE PILLOW (NY)	8420	5.01.9	SP	21.4	26.7	., .
SYLVAN PASS (WY)	7100	3/29	3.8	10.7	17.5	14.5
THUMB DIVIDE (MY)	7980	3/29	6.1	18.2	25.0	22.1
TOGWOTEE PASS (WY)	9580	3/30	8.2	27.3	39.3	30.9
TROUT CREEK PILLOW (WY)	8400	4/01	SP	6.4	-	15.6
AOFAETHE (AA)	76.50	3/30	4.0	11.7	15.1	13.0
MUCAELINE SIFFOM (MA)	7650	5/30	SP	10.0	15.3	23.6
TOUNTS PEAK PILLOW (NY)	83.50	4/01	5 P	14.8	25.8	4

ORANGE BASIN MIS IN SHOR COURSE			THIS YEAR	Y	PAST RI	
NAME	Elevation	of Survey	Soure Orach Hechart	Hiller Content	Latt Year	Appropr
RITISH COLUMBIA						
FERNIE (AC)						
FERNIE EAST (BC)	3510	3/29	1.3	4.6	9.6	7.8
FERNIE NE (BC)	4100	3/29	4.2	15.5	18.3	15.2
FIDELITY MOUNTAIN (BC)	3510	3/28	6 6 S 5	8.2A	12.1	10.2
'ILLO (AC)	6130 4200	3/28	17	34.9 4.74	46.4	43.7
GLACIER (BC)	4100	3/29	5.8	21.2	7.8	27.7
THAY (REEK LOWER (AC)	5080	3/30	4.6	15.2	21.4	19.
UNAT CREEK UPPER (HC)	6260	3/31	7.8	25.9	34.9	32.2
TILLING HORSE (AC)	5410	3/31	3.9	11.4	15.4	14.9
PINHERLEY (BC)	3800	3/30	1.2	2.54	8.4	6.9
KIMBERLEY LOWER VOR (AC)	4490	3/29	1.7	5.1	9.6	7.5
KIMBERLEY MIDDLE VOR (8C)	5510	2/59	5.6	9.8	13.9	12.6
MORRISSEY RIDGE (BC)	7020	3/29	5.2	15.1	21.1	50.5
MOUNT ABBOT (BC)	6100	3/28	7.4	28.4	30.7	28.9
MOYER MOUNTAIN (9C)	6490	3/28	113	40.9	53.9	50.5
SINCLAIR PASS (BC)	6360 4490	3/31	5 2 1 3	17.6 3.3	7.2	18.0
SULLIVAN MINE (AC)	5080	3/30	37	11.6	15.2	14.
UPPER ELK RIVER (BC)	4400	3/30	0	.0	6.1	6.
DAHO						
ABDVE BURKE (ID) BEAR MOUNTAIN (ID)	4100	3/31	4.1	15.4	21.4	24.
DIG SPRINGS (ID)	5400	3/28	147	66.1	75.1	64.
BLACK CANYON (10)	65 00 79 60	3/30 3/31	60	23.2	24.0	22.
BLACK MOOSE (ID)	8160	3/31	104	40.1		35.
BLUE LEDGE MIKE (10)	6900	3/30	80	31.0	16.7	40.
CAMP CREEK (ID)	65.80	3/29	5.5	17.8	11.5	12.
CRAB CREEK (TO)	6860	3730	80	28.8	15.2	_
CRAB CREEK PILLOW (ID)	0.686	3/30	SP	30.3	-	-
HUMBOL DT GULCH (ID)	4250	5751	5.3	11.6	-	-
HUMBOLDT GULCH PILLOW (ID ISLAND PARK (ID)		4/01	SP	10.1	-	_
ISLAND PARK PILLOW (10)	6290	3/30	5.8	20.7	20.4	17.
KILGORE (ID)	6290 0588	4/01 3/30	S P 4 O	21.0	13.2	1.1
KIT CARSON (LD)	4950	3/31	15	4.7	13.2	11.
LATHAM SPRINGS (10)	7630	3/30	92	36.4	13.1	34.
LOLO PASS (ID)	5230	4/02	5.8	22.0	34.3	32.
ropkoni (10)	5250	3/31	90	53.0	37.6	37.
LOOKOUT PILLOW (ID)	sssu	4701	5 P	32.4	-	-
LUCKY DOG (ID)	6860	3/30	8.0	31.2	-	26.
MODSE CREEK (ID) MOOSE CREEK PILLOW (ID)	6200	4701	5.4	18.4	25.0	17.
MDSQUITO RIDGE (ID)	6200	4/01	SP	19.9		-
MOSOUITO RIDGE PILLOW (ID	5200	4/01	108 5P	42.6	41.8	40.
SAVAGE PASS (10)	6170	3/31	66	23.0	34.3	- 28.
SAMIELL MOUNTAIN (ID)	8720	3/30	137	51.0	48.8	35.
SMITH CREEK (ID)	4800	3/30	122	51.8	52.8	48.
SUNSET (1p)	5540	4/01	79	28.44	37.0	36.
SUNSET PILLOW (ID)	5540	4/01	SP	35.3	-	-
TARGHEE PASS (ID)	69RO	3/30		20.1	16.8	17.
VALLEY VIEW (ID) WHITE ELEPHANT (ID)	6680	3/30		21.9	19.8	18.
WHILE PLEPHANT (ID)	7710	3/30	101	35.1	34.4	25.

SHOW April 1, 1983			CHIS YEAR		PAST RECORD		
DRAINAGE BASIR mater \$40# COURSE		0110	Sno + Oresto	Welst Continu	Wiles Cost	ent Hock out	
NAME	Claración	il Survey	(Inditt)	(In the LI	E-011 7 0 de	Assitzo	
ALBERTA							
AKAMENA (AL)	5810	3/28	5.5	19.8	26.1		
ALLISON PASS (AL)	6490	3/51	5 0	15.7	22.7	20.1	
OOW RIVER (AL)	5080	3/28	3.2	Ř.1	9.2	8.3	
BOW RIVER SUMMIT (AL)	6660	3730	4.7	13.4	13.9	15.0	
CHATEAU LAWN (AL)	5710	3728	4.0	10.9	11.8	10.9	
CUTHEAD LAKE (AL)	7250	3/30	43	11.9	15.3	16.8	
HIGHWOOD SUMMIT BUSH (AL)	7250	3/29	4.3	12.8	12.0	15.7	
LARCH VALLEY (AL)	7740	3/30	5.7	16.1	-	-	
LEE CREEK Q (AL)	4890	3/29	1.8	6.2	7.9	7.3	
	7090	3/29	3.8	10.9	10.5	12.0	
and the second s	5150	3/30	7	0.7	2.9	1.9	
	6590	3/50	3.9	11.2	11.6	11.9	
MIRROR LAKE (AL)	5740	3/29	2.8	8.0	9.8	8.1	
MIST CREEK (AL)	6740	3/30	44	11.9	14.4	14.3	
MOUNT SKOKI (AL)	6200	3/29	40	11.7	16.7	14.6	
MUD LAKE (AL)	6400	3/29	1, L	13.0	15.3	17.0	
NIGEL CREEK (AL)	5300	3/28	3.5	9.0	11.2	8.0	
PIPESTONE UPPER (AL)	7150	3/30	4.6	12.8	16.6	16.6	
PTARMIGAN HUL (AL)	7300	3/31	6.3	20.2	25.9	25.5	
SUNSHINE VILLAGE (AL)	4590	3/29	21	5.1	7.6	8.2	
SUNWAPTA FALLS (AL)	7090	3/29	6.2	19.8	25.7	-	
THREE ISLE LAKE (AL)		3/30	19	4.4	6.3	9.0	
MICKINGON SOUNTS		3/50	1.7	3.7	6.2	7.6	
MITKINZON ZANHII OBEH (VT)	0440	3770					

verage based on 1963-77 period. A — Aertal observation; v P = Snaw Pittow observations; water content only.



Buildings in old mining areas high in the mountain watersheds that are usually covered with snow show the effects of this year's low snowfall.

MONTANA WATER SUPPLY OUTLOOK Page 5

Columbia River Drainage

TREAMFLOW FORECASTS HASHN BIREAM and for HORECAST POINT	FORES Thousand Asia Faci		FEORESAND A	1 ¢0AD C#F + FE1	FORE		THOUSAND A	CAL MEET	1.000	12 4 5 1	THOUSAND A	ens trice
HASH BIREAM #d's HORCEAST POINT	Thousand Asia Fast	Prisental								C.77()	1110000111011	CHI, I LLL
			0.11111	Asmitt	Thousand As-+ E-p+	Pricerial Animin	tan Yen	A crage	Thousand Acre Esse	Percent of Avelage	Carrier	*******
Pt PIOO		pril -	September]	April	~ July			April	- June	
	/ (30	0.2	7.017	7,246	5,690	92	5 878	6,178				
OOTENA! RIVER below Libby Dam (1)	6,670	92	7,017	270	190	75		253				
ISHER RIVER mear Libby	204	76		537	455	88		514				
AAK RIVER near Troy	480	89	0 (12	8,883	7,010	9 I	7,413	7,727	5600	91	5,921	6,150
COOTENAI RIVER at Leonia (1)	8,060	91	8,643	01012	212	74	360	286	192	74	328	260
NFLOW MOULTON RESERVOIR or BUTTE (Million Gallons)	10.0	83		50.7	34.5	84		41.2				
ARM SPRINGS CREEK AT MEYERS DAM near Anaconda (2)	42.3	73	24.6	18.5	11.2	7.3	20.0	15.4				
LINT CREEK near Southern Cross (3)	13.5	73	24.0	77.6	45.0	73		61.3				
LINT CREEK below Boulder Creek (4)	57.0	66	15.9	16.9	10.6	66	15.1	16.0				
NFLOW LOWER WILLOW CREEK RESERVOIR near Hall (5)	11.2	84	13.7	78.8	60.0	84		71.I				
IDDLE FORK ROCK CREEK near Philipsburg	66.6	68		23.6	14.7	67		21.8				
EVADA CREEK near finn	16.0 750	74		1,017	670	73		920	580	73		794
M.ACRFOOT RIVER near Ronner	680	81		843	590	81		730	495	81		613
MARK FORK RIVER above Hilltown (6)	1,430	77	2,260	1.859	1,260	76	2,038	1,651	1,075	76	1,645	1,408
LARK FORK RIVER above Missoula	1,430	73	21200	187	125	73		172				
EST FORK BITTERROOT RIVER near Conner (7)	425	71		602	390	71		552	345	72		480
HITTERROOT RIVER near Darby	45.8	80		57.4	39.5	79		49.8				
KALKANO CREEK near Hamilton	32.0	82		38.8	27.7	82		33.6				
URNT FORK CREEK near Stevensville (8)	1,100	71		1,543	1,010	71		1,416	870	72		1,211
ITTERROOT RIVER at Missoula (9)	2,530	74		3,405	2,270	74		3,069	1,945	74		2,618
LARK FORK RIVER below Missoula	3,290	73	5,715	4,521	2,950	72	5,292	4,078	2,510	72	4.309	3,492
LARK FORK RIVER at St. Regis	1,700	86	5,715	1,969	1,530	86		1,782	1,300	87		I,498
ORTH FORK FLATHEAD RIVER near Columbia Falls	1,510	79	2,083	1,911	I,390	79	1,925	1,750	1,180	80	I,544	I,470
IDDLE FORK FLATHEAD RIVER near West Glacier	1,780	77	2,559	2,302	1,660	77	2,428	2,159	1,460	77	2,034	I,884
OUTH FORK FLATHEAD RIVER near Columbia Falls (10)	1,510	81	6,549	6,330	4,710	81	6,080	5,827	4,050	82	4,990	4,964
LATHEAD RIVER at Columbia Falls (10)	574	84	0,347	681	503	84		596				
WAN RIVER near Big Fork	6,020	81	8,005	7,394	5,510	81	7,323	6,806	4,700	81	5,910	5,779
LATHEAD RIVER near Polson (II)	9,510	77	14, 103	12,340	8,650	77	12,939	11,222	7,320	77	10,447	9,50
LARK FORK RIVER near Flains (11)	232	88	14,100	263	208	89		234	-		-	
NONPSON RIVER near Thompson Falls	121	85		143	112	84		133				
ROSFECT CREEK at Thompson Falls	10,700	78		13,781	9,720	7.8		12,519	8,300	78		10,633

- Adjusted for storage in Lake Koocanuso.
 Adjusted for storage in Silver Loke, diversions to and pumping from Georgetown Lake.
 Adjusted for storage in Georgetown Lake, diversions from and pumping to Silver Lake.
 Sum Flint Creek at Haxville and Boulder Creek at Haxville.
 Sum of North Fork Lower Villow Creek near Hall and South Fork Lower Willow Creek near Hall. Creek near Rall.
- (6) Difference in observed flow Clark Fork above Missoula and Blackfoot near Bonner.
- (7) Adjusted for storage in Painted Rocks Reservair.(8) Adjusted for diversion into Sunset Highline
- (9) Difference in observed flow Clark Fork above and below Missoula.
 (10) Adjusted for storage in Hungry Horse Reservoir.
 (11) Adjusted for storage in Hungry Horse Reservoir and
- Flathead Lake.

(12) Adjusted for storage in Sungry Horse Reservoir, Flathend Lake and Noxon Rapids Reservoir.

ALL FORECASTS PREPARED IN COOPERATION WITH THE NATIONAL WEATHER SERVICE

WATER SUPPLY OUTLOOK Expressed to "Proc. Pale, Average, Co

	Fig. I	Period
STREAM OF AREA	Soring Seaton	Care Season
Tobacco	Fair	Fair
Little Bitterroot	Fair	Fair
Mission Valley	Ave	Fair
Flint Creek	Fair	Poor
Unper Clark Fork	Fair	Fair
Nevada Creek	Poor	Poor
Blackfoot	Foor	Poor
West-side Bitterroot	Fair	Poor
East-side Bitterroot	Fair	Poor
Bitterroot River	Fair	Poor

Lower Clark Fork Fair Fair

Runoff forecasts below average

Forecasts for spring and summer streamflow have been lowered in most drainages. Most watersheds in the Clark Fork drainage are expected to produce 20 to 30 percent less than average runoff. Streams in the Flathead River basin are also forecast at 75 to 85 percent of average. The Kootenai River is predicted to have a little higher runoff.

Irrigation water shortages will begin developing by mid to late June on smaller streams in the upper Clark Fork basin and by late June to early July on larger streams and rivers.

Irrigators not having stored water need to be prepared for the anticipated low flows.

Snowpack levels remain low

All areas show below average amounts of water stored in the mountain snowpack. Most of the drainages hav 75-85 percent of their average water equivalent. Exceptions are the Kootenai River drainage, parts of the Swan and Mission Mountains, and a small area south of Butte which are all within 10 percent of average.

The lowest snowpack levels are in the upper Blackfoot River drainage and in the Philipsburg-Drummond areas. Some snowmelt has occurred at most low elevations during March.

SUMMARY OF SHOW MEASUREMENTS RIVER BASIN Number of THIS YEAR'S SNOW WATER AS PERCENT OF

#10/5F	0001111		
SUB-WATERSHED	Averaged	Latt Law	Acres +
East Kootenay/BC.	13	69	75
Kootenai/Montana	25	84	90
Kootemai above			
Bonners Ferry	38	7.9	86
Little Bilterroot	S	71	76
N. Fk. Flathead	8	91	90
H. Fk. Flathead	9	68	75
S. Fk. Flathead	12	80	84
Swan	9	88	92
Flathead	43	81	85
Stillwater &			
Whitefish	5	77	82
Clark Fork above		1.	
Blackfoot	35	68	81
Blackfoot	2.1	57	68
Upper Clark Fork	- 4		
above Missoula .	56	63	75
Bitterroot	19	66	80
Lower Clark Fork			
helow Missoula .	18	78	83
Clark Fork (Total			
w/o Flathead)	93	68	79
Pend O'Reille			
(Clark Fork &			
Flathead)	136	73	82
Columbia (Pend			
O'Reille &			
Kootenai)	131	72	81



Shallow snowpacks are common in most mountainous areas this season.



SNOW PILLOW DATA 7 | 14 | 21 | 30 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 14 21 | 31 7 | 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY Stahl Peak, Elevation 6,030 feet OCIOBER NOVEMBER DECEMBER JANUARY FEBRUARY Mount Lockhart, Elevation 6,400 feet FLATHEAD - MARIAS - TETON RIVER DRAINAGES 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH Black Bear, Elevation 7,950 feet 7 | 4 21 31 7 | 4 21 30 7 | 4 21 31 7 | 4 21 31 7 | 4 21 28 7 | 4 21 31 OCIOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH Tepee Creek, Elevation 8,000 feet MADISON - BEAVERHEAD - RUBY RIVER DRAINAGE OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH Copper Camp, Elevation 6,950 feet 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 31 7 14 21 31 7 14 21 31 7 14 21 31 7 14 21 31 7 14 21 31 7 14 21 Creek, Elevation 9,100 feet YELLOWSTONE - BOULDER - STILLWATER - CLARK'S FORK RIVER DRAINAGES OCTOBER NOVEMBER DECEMBER JANUARY EEBRUARY MARCH Twin Lakes, Elevation 6,510 feet BITTERROOT RIVER DRAINAGE

OCIOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH
Spur Park, Elevation 8,100 feet
JUDITH RIVER DRATMACH

JUDITH RIVER DRAINAGE

OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH Black Pine, Elevation 7,100 feet

UPPER CLARK FORK RIVER DRAINAGE

ocception cropact (Thousand Acre Feet) and de route March 31, 1983

Columbia	RESERVOIR STORAGE (Thousand Acre Feet) END OF MONTH MATCH 31, 1983						
COLUNBIA Koocanusa S.,748.2 1,956.0 1,904.0	Britis of Street	RESERVOIR	Clarett	This flar		Arritge	
Rootenai Rootenusa S.748.2 1,956.0 1,904.0 Flathead Hungry Horse 3,451.0 2,699.0 2,158.0 2,016.0 Flathead Lake 1,791.0 743.2 750.4 775.7 Camas (4)							
Flathead		4-17		2 056 0	1 00/ 0		
Flathead Lake							
Camas (4)	Flathead						
Clark Fork Georgetown Lake 31.0 24.1 28.5 24.0 Lower Willow Creek 4.9 2.3 1.9 Nevada Creek 12.6 8.9 8.9 7.9 Novan Rapids 334.6 322.2 312.1 191.9 Bitterroot Painted Rocks 31.7 17.6 Como 34.9 15.6 MISSOURI							
Clark Fork							
Lower Willow Creek							
Nevada Creek 12.6 8.9 8.9 7.9	Clark Fork						
Bitterroot							
Bitterroot			-				
Beaverhead							
Beaverhead	Bitterroot						
Beaverhead		Сото	34.9			15.6	
Beaverhead		MISSOURI					
Ruby Ruby 38.8 31.9 30.9	Beaverhead		84.0	46.3	29.0	42.6	
Ruby Ruby 38.8 31.9 30.9 Madison Hebgen Lake 377.5 258.4 260.8 245.5 Eunis Lake 41.0 17.7 30.1 34.4 44.0 Middle Creek 8.0 3.8 3.8 4.0 Missouri Canyon Ferry 2,043.0 1,626.0 1,436.0 1,527.0 Hauser & Helena 61.9 62.5 63.0 59.8 Lake Helena 10.4 10.7 10.9 9.8 Holter Lake 81.9 75.4 77.2 66.2 Fort Peck Lake 18,910.0 15,700.0 14,200.0 15,480.0 Smith Smith River 10.6 9.5 8.1 7.7 Newlan Creek 12.4 8.8 10.2 Musselshell Bair 7.0 6.2 4.6 5.4 Martinsdale 23.1 18.8 11.8 10.1 Deadman's Basiu 72.2 67.7 52.6 Sun Gibson 99.1 67.0 56.2 47.0 Willow Creek 32.2 24.7 24.7 22.8 Pishkun 32.0 19.7 19.8 16.5 Marias Lower Two Medicine 11.9 6.9 Four Horns 19.2 12.3 Swift 30.0 16.8 12.0 16.9 Holter Lake Trees 11.9 53.3 78.4 71.9 Fresno 127.2 34.9 54.9 89.1 Melson 66.8 45.6 35.6 41.5 Melson 66.8 45.6 45.6 45.6 45.6 45.6 45.6 45.6 45.6 45.6 45.6	2.0-21000						
Hadison Hebgen Lake 377.5 258.4 260.8 245.5 Eunis Lake 41.0 17.7 30.1 34.4 44.0 Gallatin Middle Creek 8.0 3.8 3.8 4.0 Missouri Canyon Ferry 2,043.0 1,626.0 1,436.0 1,527.0 Hauser & Helena 61.9 62.5 63.0 59.8 Lake Helena 10.4 10.7 10.9 9.8 Holter Lake 81.9 75.4 77.2 66.2 Fort Peck Lake 18,910.0 15,700.0 14,200.0 15,480.0 Smith Smith River 10.6 9.5 8.1 7.7 Newlan Creek 12.4 8.8 10.2 Husselshell Bair 7.0 6.2 4.6 5.4 Martinsdale 23.1 18.8 11.8 10.1 Deadman's Basiu 72.2 67.7 52.6 Sun Gibson 99.1 67.0 56.2 47.0 Willow Creek 32.2 24.7 24.7 22.8 Pishkun 32.0 19.7 19.8 16.5 Marias Lower Two Medicine 11.9 6.9 Four Horns 19.2 12.3 Swift 30.0 16.8 12.0 16.9 Lake Frances 111.9 85.3 78.4 71.9 Beaver Creek 3.5 3.1 2.5 1.9 Fresno 127.2 34.9 54.9 89.1 Nelson 66.8 45.6 35.6 41.5 Stillwater Mystic Lake 21.0 1.5 0.6 4.3 Clark's Fork Cooney 27.4 21.2 3.1 16.4 Tongue Tongue River 68.0 13.4 18.4 44.0	Ruhy	-					
Eunis Lake		*			260.8		
Gallatin Middle Creek 8.0 3.8 3.8 4.0	1100115011						
Missouri Canyon Ferry 2,043.0 1,626.0 1,436.0 1,527.0 Hauser & Helena 61.9 62.5 63.0 59.8 Lake Melena 10.4 10.7 10.9 9.8 Molter Lake 81.9 75.4 77.2 66.2 Fort Peck Lake 18,910.0 15,700.0 14,200.0 15,480.0	Callatin						
Hauser & Helena 10.4 10.7 10.9 9.8 Lake Helena 10.4 10.7 10.9 9.8 Holter Lake 81.9 75.4 77.2 66.2 Fort Peck Lake 18,910.0 15,700.0 14,200.0 15,480.0 Smith Smith River 10.6 9.5 8.1 7.7 Newlan Creek 12.4 8.8 10.2 Nusselshell Bair 7.0 6.2 4.6 5.4 Martinsdole 23.1 18.8 11.8 10.1 Deadman's Basiu 72.2 67.7 52.6 Sun Gibson 99.1 67.0 56.2 47.0 Willow Creek 32.2 24.7 24.7 22.8 Pishkun 32.0 19.7 19.8 16.5 Narias Lower Two Medicine 11.9 6.9 Four Horns 19.2 12.3 Swift 30.0 16.8 12.0 16.9 Lake Frances 111.9 85.3 78.4 71.9 Hilk Elwell (Tiber) 1,347.0 704.3 535.2 551.9 Beaver Creek 3.5 3.1 2.5 1.9 Fresno 127.2 34.9 54.9 89.1 Nelson 66.8 45.6 35.6 41.5 St. Mary's Lake Sherburne 64.3 20.5 20.8 25.1 Stillwater Nystic Lake 21.0 1.5 0.6 4.3 Clark's Fork Cooney 27.4 21.2 3.1 16.4 Tongue Tongue River 68.0 13.4 18.4 44.0							
Lake Helena 10.4 10.7 10.9 9.8	MISSOULI			- ,			
Holter Lake S1.9 75.4 77.2 66.2							
Fort Peck Lake							
Smith Smith River 10.6 9.5 8.1 7.7 Newlan Creek 12.4 8.8 10.2 7							
Newlan Creek	Coulth						
Nusselshell Bair	Sill Cit						
Martinsdale	Nugan) aba11						
Deadman's Basiu	nussersherr		-				
Sun Gibson 99.1 67.0 56.2 47.0 Willow Creek 32.2 24.7 24.7 22.8 Pishkun 32.0 19.7 19.8 16.5 Narias Lower Two Medicine 11.9 6.9 Four Horns 19.2 12.3 Swift 30.0 16.8 12.0 16.9 Lake Frances 111.9 85.3 78.4 71.9 Elwell (Tiber) 1,347.0 704.3 535.2 551.9 Beaver Creek 3.5 3.1 2.5 1.9 Fresno 127.2 34.9 54.9 89.1 Nelson 66.8 45.6 35.6 41.5 St. Mary's Lake Sherburne 64.3 20.5 20.8 25.1 YELLOWSTONE Stillwater Nystic Lake 21.0 1.5 0.6 4.3 Clark's Fork Cooney 27.4 21.2 3.1 16.4 Tongue Tongue River 68.0 13.4 18.4 44.0 Physical Reverous Archiver							
Willow Creek 32.2 24.7 24.7 22.8	C						
Pishkun 32.0 19.7 19.8 16.5	Sun						
Narias							
Four Horns 19.2 12.3 Swift 30.0 16.8 12.0 16.9 Lake Frances 111.9 85.3 78.4 71.9 Lake Frances 111.9 85.3 535.2 551.9 Elwell (Tiber) 1,347.0 704.3 535.2 551.9 Beaver Creek 3.5 3.1 2.5 1.9 Fresno 127.2 34.9 54.9 89.1 Nelson 66.8 45.6 35.6 41.5 St. Mary's Lake Sherburne 64.3 20.5 20.8 25.1 Stillwater Mystic Lake 21.0 1.5 0.6 4.3 Clark's Fork Cooney 27.4 21.2 3.1 16.4 Tongue Tongue River 68.0 13.4 18.4 44.0	Ares Area			19.7			
Swift 30.0 16.8 12.0 16.9	narias						
Nilk Elwell (Tiber) 1,347.0 704.3 535.2 551.9 Beaver Creek 3.5 3.1 2.5 1.9 Fresno 127.2 34.9 54.9 89.1 Nelson 66.8 45.6 35.6 41.5 St. Mary's Lake Sherburne 64.3 20.5 20.8 25.1 Stillwater Nystic Lake 21.0 1.5 0.6 4.3 Clark's Fork Cooney 27.4 21.2 3.1 16.4 Tongue Tongue River 68.0 13.4 18.4 44.0							
Nilk Elwell (Tiber) 1,347.0 704.3 535.2 551.9 Beaver Creek 3.5 3.1 2.5 1.9 Fresno 127.2 34.9 54.9 89.1 Nelson 66.8 45.6 35.6 41.5 INUDSON BAY St. Mary's Lake Sherburne 64.3 20.5 20.8 25.1 YELLOWSTONE Stillwater Nystic Lake 21.0 1.5 0.6 4.3 Clark's Fork Cooney 27.4 21.2 3.1 16.4 Tongue Tongue River 68.0 13.4 18.4 44.0							
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Fresho 127.2 34.9 54.9 89.1 Nelson 66.8 45.6 35.6 41.5 Nelson 66.8 45.6 35.6 41.5 St. Mary's Lake Sherburne 64.3 20.5 20.8 25.1 YELLOWSTONE	HIIK		4				
Nelson 66.8 45.6 35.6 41.5							
No.							
YELLOWSTONE 20.5 20.8 25.1 YELLOWSTONE Stillwater Mystic Lake 21.0 1.5 0.6 4.3 Clark's Fork Cooney 27.4 21.2 3.1 16.4 Tongue Tongue River 68.0 13.4 18.4 44.0		Nelson	00.0	45.0	33.0	41.3	
YELLOWSTONE Stillwater Mystic Lake 21.0 1.5 0.6 4.3 Clark's Fork Cooney 27.4 21.2 3.1 16.4 Tongue Tongue River 68.0 13.4 18.4 44.0		HUDSON BA					
Stillwater Mystic Lake 21.0 1.5 0.6 4.3 Clark's Fork Cooney 27.4 21.2 3.1 16.4 Tongue Tongue River 68.0 13.4 18.4 44.0	St. Mary's	Lake Sherburne	64.3	20.5	20.8	25.1	
Stillwater Hystic Lake 21.0 1.5 0.6 4.3 Clark's Fork Cooney 27.4 21.2 3.1 16.4 Tongue Tongue River 68.0 13.4 18.4 44.0		VELLUMENTAL	F				
Clark's Fork Cooney 27.4 21.2 3.1 16.4 Tongue Tongue River 68.0 13.4 18.4 44.0	Stillwater			1.5	0.6	4.3	
Tongue Tongue River 68.0 13.4 18.4 44.0		-					
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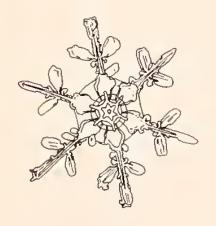
The winter snows are melting at many lower mountain sites.

SATELLITE SNOW COVER



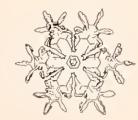
MISSOURI RIVER BASIN Above Conyon Fetry Dam

DATE	PERCENT SNOW COVER	SNOVLINE ELEVATION IN FEET
November 14, 1982	81	5290
November 1982	96	4300
November 24, 1982	95	4380
December 24, 1982	100	3800
January 18, 1983	76	5540
January 25, 1983	71	5770
February 3, 1983	76	5540
February 24, 1983	72	5720
March 10, 1983	65	6040
March 21, 1983	71	5770
March 26, 1983	72	5720





AVERAGE



AGENCIES AND ORGANIZATIONS COOPERATING IN MONTANA SNOW SURVEYS

GOVERNMENT AGENCIES

VERNMENT AGENCIES

Canada

Deportment of the Environment

Atmospheric Environment Service

Water Management Service

British Columbia Ministry of Environment

Inventory and Engineering Branch, Hydrology Section

Alberta Environment

Technical Services Division

Technical Services Division

Federal

Department of the Army
Department of Agriculture - Forest Service
- Soil Congervation Service
- National Environmental Satellite Service
- Bureau of Indian Affairs
- Fish and Wildlife Service
- Geological Survey
- National Park Service
- Geological Survey
- National Park Service
- Bureau of Reclamation
- Benneville Power Administration

STATE AGENCIES

Monthna Conservation Districts
Monthna Department of Fish, Wildlife and Parks
Montana Department of Natural Resources and Conservation
Montana State University - Agricultural Experiment Station
University of Monthna - School of Forestry

PRIVATE ORGANIZATIONS

The Anaconda Company
Big Sky of Monthna
Butte Water Company
Flathead Valley Community Coilego
Montana Power Company

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.